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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/720,092	09/27/1996	ROBERT E. KAHN	06154/008001	1226

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EXAMINER

COURTENAY III, ST JOHN

ART UNIT	PAPER NUMBER
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2194

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/720,092

Applicant(s)

KAHN ET AL.

Examiner

St. John Courtenay III

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19 and 24-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4, 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 5-19, 24-26, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.


ST. JOHN COURTENAY III
PRIMARY EXAMINER

Detailed Action

Responsive to newly revised PTO Group 2100 examination guidelines, a new rejection of claim 25 is set forth below under 35 U.S.C. §101:

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The language of independent claim 25 raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a useful, concrete, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Independent claim 25 does not appear to require any computer hardware to implement the claimed invention. Claim 25 appears to define the metes and bounds of an invention comprised of software alone. Software alone, without a machine, is incapable of transforming any physical subject matter by chemical, electrical, or mechanical acts.

If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. In re Schrader, 22 F.3d 290 at 294-95, 30 USPQ2d 1455 at 1458-59 (Fed. Cir. 1994).

Transformation of data by a machine constitutes statutory subject matter if the claimed invention as a whole accomplishes a practical application. That is, it must produce a "useful, concrete

and tangible result." State Street, 149 F.3d 1368, 1373, 47 USPQ2d 1596 at 1600-02 (Fed. Cir. 1998). MPEP 2106.

State Street required transformation of data by a machine before it applied the "useful, concrete, and tangible test." However, State Street does not hold that a "useful, concrete and tangible result" alone, without a machine, is sufficient for statutory subject matter. State Street, 149 F.3d at 1373, 47 USPQ2d at 1601.

Claim 25 is rejected under 35 U.S.C. 101 because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e., a practical application).

35 U.S.C. § 112, 1st paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 25 is rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art would not know how to use the claimed invention.

35 U.S.C. § 112, 2nd paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Independent claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are computer hardware necessary to execute the claimed software and render the invention operative.

As per dependent claims 10, 12:

Dependent claims 10 and 12 are rejected under 35 U.S.C. 112, second paragraph as being indefinite because the claimed "objects" lack positive antecedent basis.

With respect to independent claims 2, 5, 9, 13, 15, 18, and 24, any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989); Pac-Tec Inc. v. Amerace Corp., 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990). See also In re Stencel, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987).

The words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

In the instant application, the claimed "**distributed system**" has been considered by the Examiner as a definition. A clear definition for the claim element "distributed system" is provided on page 2 of the instant specification:

"Distributed system" may include a Knowbot system, as well as components which are outside the Knowbot system, such as magnetic diskettes, optical disks, and other large scale storage media, including digital representations of

data on paper.

"Knowbot system" is a system (including programs) for creating, storing, and moving Knowbot programs among **computers**, executing the programs, and moving to and storing the results as needed at destination computers or the **Network**.

Accordingly, the "**distributed system**" recited in the preamble of independent claims 2, 5, 9, 13, 15, 18, and 24 is interpreted by the Examiner in accordance with the above definition as a **distributed system** that limits the structure of the claimed invention in a manner that appears to comply with current 35 U.S.C. §101 examination guidelines (i.e., as a **distributed system** comprised of BOTH hardware and software OR as a system limited to tangible mediums or products in accordance with the above definition).

Computer readable mediums that are broad enough in scope to encompass non tangible mediums such as communication signals, transmission mediums, optical communication signals, and the like, are now considered to be non statutory subject matter by the PTO under 35 U.S.C. § 101, pursuant to recently revised mandatory examination guidelines.

35 U.S.C. §102

New art rejections are set forth below for two non patent references with intervening dates (i.e., a publication date between the filing date of parent application 08/453,486 (filed May 30, 1995) and the instant Continuation-In-Part (CIP) application which has a filing date of Sept. 27, 1996.

The burden shifts to Applicant to traverse the rejections set forth below, AND/OR show the specific corresponding supporting sections in parent application 08/453,486 (now abandoned) that arguably entitle the instant CIP claims to the earlier filing date of the parent application. A complete response must address the support in the parent application for each instant claim.

35 U.S.C. §102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 5-19, 26, 29, and 30 are rejected under 35 U.S.C. § 102(a) as being anticipated by **Lingnau** et al., "Making mobile agents communicate: a flexible approach" Emerging Technologies and Applications in Communications, 1996. Proceedings., First Annual Conference on, Vol., Iss., 7-10, May 1996, Pages:180-183.

As per independent claim 5:

Lingnau teaches a method for use in a distributed system for processing a mobile program that executes in one node of the distributed system, may be interrupted at almost any point in its execution, and may be moved to another node of the distributed system for further execution, comprising:

- in the one node, capturing a current state of the mobile program execution, delivering the captured state and program code of the mobile program to the other node [e.g.,

see "agents can be *mobile* – the may be able to move between computers in a network while carrying along their internal state in order to resume their work at the new location" and associated discussion, beginning page 180, §1.1, paragraph 2; see also, §1.1, paragraph 1: "For the purposes of this paper, we assume that an *agent* is a computer program that helps a user perform a task (or set of tasks). To do this, it must contain persistent state and be able to communicate with its owner, other agents and its environment in general"], and

- continuing execution at the other node from the point of interruption based on the captured state and the program code [e.g., see "agents can be *mobile* – the may be able to move between computers in a network while carrying along their internal state in order to resume their work at the new location" and associated discussion, beginning page 180, §1.1, paragraphs 1 & 2].

As per dependent claim 6:

Lingnau teaches delivering with the captured state and the program code a transported file system or other information created during execution of the mobile program [e.g., see "This is of interest, e.g., in information retrieval; one can send off a mobile agent to execute a complicated query rather than having to transfer all the raw data to one's own computer (and subsequently discard most of it). This approach saves considerable bandwidth. Other applications of mobile agents include active documents, electronic commerce, network management and mobile computing. To be useful, an agent must be able to communicate with its peers and its environment" and associated discussion, page 180, §1.1, paragraph 2].

As per dependent claim 7:

Lingnau teaches the information in the transported file system or other information is accessible without executing the mobile program [e.g., see page 180, §1.1, paragraphs 1 & 2, especially use of "active documents"; see also information space discussion p. 181, §2.1, paragraphs 1 & 2].

As per dependent claim 8:

Lingnau teaches the step of capturing comprises using an encoding scheme of a language interpreter [e.g., see use of "KIF" and "KQML" languages and associated discussion, beginning p. 182, §3.1, paragraph 1].

As per independent claim 9:

This claim is rejected for the same reasons detailed above in the rejection of independent claim 5, and also for the following additional reasons:

Lingnau teaches a method for enabling communication with a mobile program running in a distributed system, a mobile program service station, an extension, or another application, comprising:

- providing a mechanism which enables each of the mobile program and the mobile program service station, the extension, or the other application to identify services that it provides, and enables each of them to find services that it needs [e.g., see "information space" and associated discussion, beginning page 181, §2.1; see also "Communicating with the Host" §2.2, p. 181].

One approach that meets these constraints is the *information space*. This is a "pool" of information items which is maintained by an agent server and accessible to every agent running under that server's control. The items in the information space are triples (k, a, v) consisting of a key or unique name k , an *access control list* a which is used to restrict access to that item to particular agents or groups of agents and an arbitrary *value* v which is not interpreted by the infrastructure and can be of any size. The agent server enforces access control on the items within the information space.

As per dependent claim 10:

Lingnau teaches each of the objects [i.e., mobile agents] is provided by a supervisor process [i.e., agent server, p. 181, §2.1, 2nd paragraph] running in the distributed system and prevents uncontrolled access to a needed service [e.g., see "access control list" and associated discussion, p. 181, §2.1, i.e., "The agent server enforces access control on the items within the information space"]].

As per dependent claim 11:

Lingnau teaches the mechanism includes a broker [i.e., "client agent" p. 182, §3.2] and a manager [i.e., "server agent" p. 182, §3.2].

As per dependent claim 12:

Lingnau inherently teaches the objects [i.e., mobile agents] are data typed [e.g., see "... as well as common ontologies which ensure that, between agents, the same words mean the same things" and associated discussion, beginning page 182, §3.1].

As per dependent claim 26:

Lingnau teaches the mechanism comprises a connector mechanism, and the objects comprise connector objects [see e.g., "stationary objects" that mediate access from mobile agents

to the host via the information space, p. 181, §2.2 and associated discussion].

As per dependent claim 30:

Lingnau teaches including enabling the mobile program to communicate with mobile program service stations via objects associated with the mechanism [e.g., see "For Example, there is a list of the agents currently executing under the control of the server that a mobile agent can use to contact another" and associated discussion, beginning p. 181, §2.2].

As per independent claim 13:

This claim is rejected for the same reasons detailed above in the rejection of the preceding independent claims, and also for the following additional reasons:

Lingnau teaches a method for enabling negotiation between two unrelated mobile programs, mobile service stations, extensions, or other applications, in a distributed system, comprising:

- in an operating environment in a node of the distributed system, receiving information from one of the two mobile programs, mobile program service stations, extensions, or other applications, concerning a transaction offered to other mobile programs, mobile program service stations, extensions, or other applications [e.g., see "all, the agent server publishes information about the host system for the benefit of visiting agents." and associated discussion, beginning p 181, §2.2; see also: "3.2 Request-Reply Scheme A straightforward approach that can be used for a dialogue between two agents--e.g., a mobile agent talking to a stationary agent which mediates some service offered by the host-is for the "client" agent *a* to put an item containing a suitably formatted (e. g., in KQML) request in the information space using a prearranged key *k*. - p. 182, §3.2],

- in the operating environment in the node, receiving information on the second of the two mobile programs, mobile programs service stations, extensions, or other applications concerning a transaction in which the second of the mobile programs, mobile program service stations, extensions, and other applications wishes to engage [e.g., see "For example, there is a list of the agents currently executing under the control of the server that a mobile agent can use to contact another." and associated discussion, beginning p. 181, §2.2],
- notifying the second mobile program, mobile program service station, extension, or other application of the one mobile program, mobile program service station, extension, or other application [e.g., see "First of all, the agent server publishes information about the host system for the benefit of visiting agents. For example, there is a list of the agents currently executing under the control of the server that a mobile agent can use to contact another." and associated discussion, beginning p. 181 §2.2], and
- enabling the two mobile programs, mobile program service stations, extensions, or other applications to communicate concerning the transaction [e.g., see "2.1 The Information Space To support communication between agents written in different languages, we need a language-independent abstraction of a communication medium." and associated discussion, beginning p. 181, §2.1].

As per dependent claim 14:

Lingnau teaches the information is received from two mobile programs by a third mobile program [see e.g., "Agent Multicast" discussion, p. 182, §3.3].

As per independent claim 15:

This claim is rejected for the same reasons detailed above in the rejection of the preceding independent claims, and also for the following additional reasons:

Lingnau teaches a method for enabling action by an operating environment in a distributed system with respect to a mobile program which is programmed in a language that is not fully supported by the operating environment, comprising:

- labeling a mobile program to identify operating environment features required for support of the mobile program [e.g., see "triples (k, a, v)" and associated discussion, beginning p. 181, §2.1, paragraph 2],
- in an operating environment, examining the labeling of the mobile program to determine whether the operating environment supports the identified features, and taking an action based on whether the identified features are supported [e.g., see "Agents can use three basic operations on the items in the information space:" and associated discussion, beginning page 181, §2.1, paragraph 3].

As per dependent claim 16:

Lingnau teaches the action comprises sending the mobile program to another operating environment for processing [e.g., see "agents can be *mobile* – the may be able to move between computers in a network while carrying along their internal state in order to resume their work at the new location" and associated discussion, beginning page 180, §1.1, paragraphs 1 & 2].

As per dependent claim 17:

Lingnau teaches the action comprises retrieving nonprogram specific data from the mobile program [e.g., see "To support communication between agents written in different languages, we need a language-independent abstraction of a communication medium" and associated discussion, beginning page 181, §2.1, paragraph 1].

As per independent claim 18:

This claim is rejected for the same reasons detailed above in the rejection of the preceding independent claims, and also for the following additional reasons:

Lingnau teaches a method for aiding communication with a mobile program executing in a distributed system, the method comprising:

- maintaining a name space of identifiers that uniquely identify one or more types of information that may be communicated [e.g., see "unique name k" as one item in the information space and associated discussion, beginning p. 181, §2.1, 2nd paragraph], and
- in connection with a communication, using the identifiers to indicate the one or more types of information being communicated [e.g., see use of "KIF and KQML" to communication, and associated discussion, beginning p. 182, §3.1].

As per dependent claim 19:

Lingnau teaches the mobile program registers or otherwise records an interface which includes the identifier of the type of information that is to be communicated [e.g., see "An agent can register its interest in a certain range of keys with the server to be notified in any item with a matching key changes" and associated discussion, beginning p. 182, §3.2, 2nd column].

As per dependent claim 29:

Lingnau teaches the name space [i.e., "information space] allocates unique identifiers to one or more types of information [e.g., see "unique name k" as one item in the information space and associated discussion, beginning p. 181, §2.1, 2nd paragraph].

Claims 24 and 25 are rejected under 35 U.S.C. § 102(a) as being anticipated by **Tardo** et al., "Mobile agent security and Telescript", Compcon '96. 'Technologies for the Information Superhighway' Digest of Papers, Vol., Iss., 25-28 Feb 1996, Pages:58-63.

As per independent claim 24:

Tardo teaches a method for controlling interaction between a mobile program and an application running in an operating environment provided at a node of a distributed system, comprising:

- defining a trusted portion of the operating environment which provides trusted services to the mobile program [e.g., see " 6.4 Entering and Meeting In processing an agent's go, Telescript allows the destination place to decide whether or not it will let the agent in. The engine calls the place's **entering** operation and supplies the agent's authority, class and permit. The place can decide to admit the agent, perhaps imposing a local permit, or it can deny entry by raising an **OccupancyDenied** or **DestinationUnknown** exception. If the place admits the agent, the engine supplies it an unprotected reference to the agent, and the agent resumes execution in the new place. The agent can also obtain an unprotected reference to the place, permitting either to initiate interaction with the other by invoking the other's features. In a similar fashion, the engine mediates a meeting protocol between agents. To some extent, places can be used to provide restricted environments for safely hosting unfamiliar agents. An example of a restricted place is "purgatory," a place found in production Telescript platforms and used as a default destination for agents that can't be delivered to their desired destination for some reason." and associated discussion, beginning p. 60, §6.4],
- requiring portions of the application running in the operating environment to be registered as trusted [e.g., see "**registration** uses RSA public key authentication, Diffie-Hellman key exchange, and RC4 encryption to create a secure channel. A device uses the **registration** regime the first time it contacts a Telescript service. When this regime is used, the region policy only permits certain classes of **registration agents** to enter, and limits the places that these agents can visit. After a successful registration, the engine retains

authentication state information about that remote device." and associated discussion, beginning p. 61, §8.2], and

- permitting indirect interaction via the operating environment between the mobile program and the application running in the operating environment only if the portions of the application required to be registered have been registered [e.g., see "**re-key** is essentially the same as **registration**, involving public key authentication, but only used when a DES key expires or under circumstances where the device or service lose the shared key. **authentication** is similar to fast authentication but uses the Diffie-Hellman algorithm to negotiate a shared RC4 traffic key. This provides perfect forward secrecy [8]. For the **registration, re-key, and authentication** regimes, an asymmetric authentication exchange is used with devices authenticating to Telescript services." and associated discussion, beginning p. 62, §8.2] .

As per independent claim 25:

This claim is rejected for the same reasons detailed above in the rejection of independent claim 24, and also for the following additional reasons:

Tardo teaches a method for enabling a mobile program to carry out defined functions including otherwise safe functions, through the use of extensions comprising:

- coding safe extensions to an operating environment and to an interpretive language under which the mobile program runs [e.g., see " 5.0 Object Runtime Safety Telescript is intrinsically "**safe**" from a programming perspective. **Scripts** either do what they are supposed to do or fail gracefully. Telescript does not have pointers or pointer arithmetic. Instead, objects are accessed only via their interfaces and only using valid references. Telescript engines provide run time type checking, automatic memory management with garbage collection, and exception processing. In addition, Telescript provides a number of built in classes for **safe** and efficient data structuring (e.g., List), with exceptions raised in the case of inappropriate indexing arguments. From a security perspective, the most important thing is that the **interpreter** functions as though a reference monitor to mediate access to objects. The **interpreter** strictly enforces **object encapsulation** with public and private access modifiers for features

(operations and attributes). Private features are only available internally within the class and its sub-classes." and associated discussion, beginning p. 59, §5.0; see also "7.0 System Safety" discussion p. 61, §7.0], and

- permitting the mobile program to carry out the defined functions by making use of the extensions [e.g., see "§ 6.3 Permits" and associated discussion, p. 60, 2nd column].

Indication of Allowable subject matter

As per independent claim 2: (and associated dependent claims 3, 4, 27, and 28)

As stated above, the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d1320, 1322 (Fed. Cir. 1989).

In particular, with respect to software components, the scope of the claimed software component cannot be reasonably ascertained merely from a **moniker**, or **mnemonic name** assigned by the programmer to the component. The Examiner must look to the specification for a definition.

In the instant application, the claimed "**bastion object**" has been considered by the Examiner as a definition. A clear definition for the claimed "**bastion object**" is provided on page 3, line 17 of the instant specification:

"**Bastion object**" is an object created by a Knowbot operating system and which establishes a restricted interface to a system object.

When the claim is properly constructed by applying the above definition, independent claim 2 is appears to be allowable over the prior art of record for at least the following reasons, subject to the results of a final search:

The prior art of record does not teach, nor fairly suggest, the supervisor process creating a **bastion object** in an unrestricted environment to protect the unrestricted environment and running the bastion object in a restricted environment within which the mobile program is running, as claimed.

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Prior Art not relied upon:

Please refer to the references listed on the attached PTO-892 which are not relied upon in the claim rejections detailed above.

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How to Contact the Examiner:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to St. John Courtenay III, whose telephone number is 571-272-3761. A voice mail service is also available at this number. The Examiner can normally be reached on Monday - Friday, 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-AI who can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**PTO CENTRAL FAX NUMBER:
703-872-9306**

- Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: (571) 272-2100.**


**ST. JOHN COURTENAY III
PRIMARY EXAMINER**